



Docket No.: KCC-13368.10

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#16
B. Webb
10/23/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Maria RAIDEL
Franz ASCHENBRENNER

Serial No.: 09/402,059

Filing Date: 14 February 2000

Title: ABSORBENT ARTICLE

Group No.: 3761

Examiner: J. Webb

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REQUEST FOR RECONSIDERATION TECHNOLOGY CENTER R3700

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is in response to the Office Action mailed on 12 July 2002. The rejection of Claims 45-49, 57-59, 62, 68-69, 71, 73-75, 82-86, 94-96, 102-105 and 107-111 under 35 U.S.C. §102(b) as anticipated by Kellenberger (EP 0,339,461) is respectfully traversed.

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on

08 October 2002

08 Oct. 2002

Date

March Peterson
Signature

Applicants' independent Claims 45, 62 and 102 are directed to an absorbent article comprising a liquid permeable layer, a substantially liquid impermeable layer, and an absorbent body between them. The absorbent body comprises a flowable absorbent material which remains able to flow after absorbing at least about 10.5 grams per water per gram of flowable absorbent material.

The patentee serves as his own lexicographer. This means that claim limitations are to be construed according to Applicants' own specification, notwithstanding the existence of possible different interpretations available in a variety of external resources.

According to Applicants' specification, the phrase "flowable absorbent material which remains able to flow" refers to an absorbent material, such as particles, which can shift and become displaced within the absorbent body, i.e., relative to the remainder of the absorbent body. When one part of the absorbent body experiences a load, the flowable absorbent material shifts to another part of the absorbent body, alleviating the load. When the source of the load is removed, the flowable absorbent material can shift back to its original position within the absorbent body (Specification, p. 5, lines 1-20). According to Applicants' claims, this ability to flow

is maintained until the flowable absorbent material absorbs at least about 10.5 times its own weight of water.

In a typical absorbent body, for instance, the flowable absorbent material is embedded in a fibrous matrix. The flowable absorbent material can be mixed in with the fibrous matrix, and individual components of the flowable absorbent material can flow with respect to the matrix. Alternatively, the flowable absorbent material can constitute a layer sandwiched in between two or more fibrous layers, and can flow with respect to the fibrous layers. In either instance, the flowable absorbent material remains able to flow with respect to the fibrous material and within the absorbent body, after contact with and absorption of a liquid (Specification, p. 7, lines 6-32).

The Examiner indicated that prior art superabsorbent materials, after absorption with a liquid, can be placed on a flat surface and the surface tipped, causing movement of the superabsorbent. Such a property is not pertinent to Applicants' claims. Applicants' claims are directed to an absorbent body in which a flowable absorbent material is one component. Applicants' claims, construed according to the specification, require that the flowable absorbent material is able to flow within the absorbent body, i.e., relative to the remainder of the absorbent body.

When Applicants use the phrase “which remains able to flow,” this does not indicate that the flowable material can be placed on a flat surface and the surface tipped. Instead, the phrase “remains able to flow” requires an ability to flow within the absorbent body, for instance, within a fibrous matrix, where there are no flat surfaces.

The Examiner stated that a superabsorbent material is defined as being able to absorb 100 times its weight in water, thus, Applicants’ claims are directed to absorbent materials that can flow after reaching only 10% of their swelling capacity. There is no support for this definition of a superabsorbent material. Applicants’ specification provides examples of absorbent materials covered by the invention, having a maximum absorption capacity of 15.5 to 20.3 times their own weight (Specification, Table 1, p. 14). When read in the context of Table 1, the claimed minimum absorption capacity of 10.5 times the absorbent material weight without losing the ability to flow, would correspond to about 50-70% of the total absorbent capacity.

Even the Kellenberger reference contradicts the Examiner’s requirement that a superabsorbent material must absorb 100 times its own weight in water. Kellenberger describes superabsorbents which absorb 24 times their own weight in

water (p. 6, lines 2-10). Kellenberger characterizes such absorbent capacities as “relatively high” for superabsorbents (p. 5, lines 43-45).

Furthermore, the maximum absorption capacity of an absorbent material is irrelevant when determining whether or not the absorbent material can flow within an absorbent body, after absorbing at least 10.5 times its own weight in water. As explained on pp. 14-15 of Applicants’ specification, the absorbent material used in the invention can absorb substantial quantities of water without experiencing any increase in volume. The ability of an absorbent material to flow after absorbing 10.5 times its weight in water, is thus related to its ability to absorb the water without experiencing a significant volume increase. Conventional superabsorbent materials have high absorption capacities largely because they can swell to many times their initial volume. The maximum absorption capacity of a superabsorbent material corresponds to its maximum swelling, and is unrelated to whether or not the material can absorb significant liquid with little or no swelling, thus retaining its ability to flow.

Applicants’ independent Claims 45, 62 and 102, properly construed according to the specification, are not anticipated by Kellenberger. Kellenberger does not disclose or suggest an absorbent material which remains able to flow within an absorbent body, after absorbing at least 10.5 times its own weight in water.

Comparing Figs. 2 and 4 of Kellenberger indicates that the absorbent particles swell to many times their initial volume when exposed to a liquid, such that the absorbent particles in Fig. 4 are completely locked in place between the fibers. Kellenberger states that the absorbent particles perform a substantial amount of work against the fibers in the absorbent body (p. 5, lines 24-30). The work is attributed to the “ability of the superabsorbent material to swell under an applied force” (p. 5, lines 30-38). The swelling apparently maintains the superabsorbent particles in position within the matrix, so as to maintain a capillary structure between the particles and prevent gel blocking (p. 6, lines 20-33).

In summary, the teaching of Kellenberger is the precise opposite of the Applicants’ invention. The invention is directed to the use of an absorbent material which tends not to swell in the presence of liquid, so that the absorbent material can flow within an absorbent body even after absorbing at least 10.5 times its weight in water. Kellenberger, by contrast, is directed to the use of absorbent particles which swell in the presence of liquid and perform substantial work against the fiber matrix, so that the swollen absorbent particles cannot flow, and a capillary structure is maintained between them.

The rejection of Claims 60, 61, 76, 78 and 79 under 35 U.S.C. §103(a) as obvious over Kellenberger in view of LeMahieu et al. (U.S. Patent 5,904,672) is respectfully traversed. These claims depend from Claims 45 and 62, and are patentable for at least the same reasons. Furthermore, LeMahieu et al. does not teach or suggest a flowable absorbent material which remains able to flow after absorbing at least 10.5 times its weight in water.

The rejection of Claims 63 and 64 under 35 U.S.C. §103(a) as obvious over Kellenberger in view of Luceri (U.S. Patent 5,807,365) is respectfully traversed. These claims depend from Claim 62, and are patentable for at least the same reasons. Furthermore, Luceri does not teach or suggest a flowable absorbent material which remains able to flow after absorbing water in an amount of at least about 10.5 times its own weight.

The rejection of Claims 65, 66, 68, 70 and 72 under 35 U.S.C. §103(a) as obvious over Kellenberger in view of Plischke et al. (U.S. Patent 5,977,014) is respectfully traversed. These claims depend from Claim 62, and are patentable for at least the same reasons. Furthermore, Plischke et al. does not teach or suggest a flowable absorbent material which remains able to flow after absorbing water in an amount of at least about 10.5 times its weight. Additionally, the Examiner asserts that

it would have been obvious to separate the absorbent matrix of Kellenberger with two layers and place the superabsorbent particles between them. However, such a modification would be directly contrary to the teaching of Kellenberger which requires superabsorbent particles to be positioned between individual matrix fibers, so that the matrix fibers are pushed further apart when the superabsorbent particles swell (Kellenberger, p. 6, lines 27-33). The Examiner cannot combine two references in such a manner that would contradict or defeat the teachings of the primary reference. The primary reference teaches away from the claimed layered structure.

The rejection of Claims 80 and 81 under 35 U.S.C. §103(a) as obvious over Kellenberger in view of Jones, Sr. (U.S. Patent 3,794,034) is respectfully traversed. These claims depend from Claim 62, and are patentable for at least the same reasons. Furthermore, Jones, Sr. does not teach or suggest a flowable absorbent material which remains able to flow after absorbing water in an amount of at least about 10.5 times its weight.

The rejection of Claims 97-101 and 106 under 35 U.S.C. §103(a) as obvious over Kellenberger in view of Reising et al. (U.S. Patent 4,988,344) is respectfully traversed. These claims depend from Claims 62 and 102, and are patentable for at least the same reasons. Furthermore, Reising et al. does not teach or

suggest a flowable absorbent material which remains able to flow after absorbing water in an amount of at least about 10.5 times its weight.

The Examiner has maintained the various claim rejections based on the assertions that even swollen superabsorbents remain able to flow, and Applicants' claims do not require an ability to flow within the absorbent structure (Office Action, p. 7). To the contrary, Applicants' claims do require an ability to flow within an absorbent body. Every independent claim requires that the flowable absorbent material is a component of an absorbent body, and the absorbent body is a component of an absorbent article. The ability of the absorbent material to flow within the absorbent body is implicit from the dual requirements that a) the flowable absorbent material is contained within the absorbent body and b) the material remains able to flow after absorbing at least about 10.5 times its weight in liquid water. To construe Applicants' claims as reading on an absorbent material which has been separated from an absorbent body and placed on a flat surface, is beyond the claim scope.

The Examiner further maintained that the superabsorbents of Kellenberger remain able to flow, notwithstanding that they become sticky and gel together when wet (Office Action, p. 7). As previously explained, the superabsorbents in Kellenberger are completely dispersed within a fibrous matrix (see, e.g., Fig. 4).

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Regardless of whether the superabsorbent particles touch each other when swollen and wet, they will not flow. If the superabsorbent particles fail to touch each other, they are completely ensnared within the matrix (Kellenberger, Fig. 4). If the particles touch, they will stick together, and this will further prevent their flow.

The Examiner responded to Applicants' written request for a telephone interview only by issuing another Office Action. Applicants' attorney repeats the request for a telephone interview, if the Examiner feels that any issues remain unresolved.

Respectfully submitted,



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